

- 38 -

Beam Hopping Self Addressed Packet Switched
Communication System with Multiple Beam Array Antenna

ABSTRACT OF THE DISCLOSURE

5 A data routing subsystem (200) for a communication satellite includes an inbound module (602) that accepts demodulated uplink data. The inbound module (602) includes a routing table (702) that stores queue tags (714) specifying downlink beam hop locations (302, 304) for the uplink data. The
10 subsystem (200) also includes a self addressed packet switch (608) having an input port coupled to the inbound module (602), and an outbound module (610) coupled to an output port of the switch (608). A memory (804) in the outbound module (610) stores the
15 uplink data in accordance with the downlink beam hop locations (302, 304). A multiple beam array antenna (116-122) is coupled to the outbound module (610). The multiple beam array antenna (116-122) includes a first feed element (116) assigned to a first downlink
20 beam hop location (302) and a second feed element

(118) assigned to a second downlink beam hop location
(304).